

California Mathematics Framework Errata

Page Number	Corrections
viii	Delete “Sheri Willebrand” because she has requested to have her name removed from this document.
ix	(1) Move “Deborah Tepper Haimo” up above Henry Alder, and add “, Chair CFCC” after her name and UCSD (2) Delete “Patricia Montgomery” because she has requested to have her name removed from this document. (3) Correct spelling of Marion Bergeson to read Marian Bergeson (also change on the Publishing Information).
22	Edit – Sample problem for 2.1: Delete “Make as many pairs...” Insert: “Pair up as many groups of beans from the left column with groups of beans from the right column so that each group adds up to 10 beans.” Change the figure to show two columns with “beans” that add up to the numbers shown (e.g., 2 beans and 6 beans, then 7 and 9 beans, and so on). Label the Drawing BEANS and put Column 1 above the left column of beans and Column 2 above the right column of beans.
24	Measurement and Geometry (MG) 1.1: Delete “Who is the oldest in the class?” and Insert “Which container holds more?” MG 1.2: Change the problem to read: “...came back \geq 4 hours later. What time Did I come home in the morning or in the afternoon?”
27	Number Sense (NS) 2.6: replace “14 pages on Thursday” with “7 pages on Thursday”
28	MG 2.1: Delete problem “Make a picture.....rectangles.” and Insert “Describe the shape of a page in your textbook and compare it to the face of the clock on the wall.”
30	NS 2.2: Add the following as a second part to the sample problem “Now do the same problems again using addition and subtraction algorithms.”
31	NS 4.1: Change wording of item 1 to: “...larger than one-sixth of the same pie.” (delete “a” and insert “the same”).
33	MG 1.1: Move the sample problem currently under 1.1 (“Four children measured...”) to MG 1.2 below. [There will now be two sample problems under 1.2 and no problem under 1.1.] MG 1.4 Change “It took a bus...nonstop?” to “A bus left the station at 9:45 in the morning. It takes 45 minutes to drive from the station to the bus barn. What time will it be when the bus gets to the bus barn?”
35	NS 1.5: Change the problem to read $3,102 \times 3 = 9,000 + 300 + 6$
36	NS 2.4: Move sample problem (“A price list in a store...”) to NS 2.8 below.
37	NS 3.2: Change the <u>values</u> for the two problems: <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">1. $\frac{1}{6} + \frac{2}{6} = ?$</div> <div style="text-align: center;">2. $\frac{7}{8} - \frac{3}{8} = ?$</div> </div>

Page Number	Corrections
38/59	Algebra and Functions (AF) 1.5: Move this sample problem (“When temperature is...What is 50 degrees..? (...parentheses).” on page 38 to page 59 under AF 2.1. [There will then be two sample problems for AF 2.1 on p. 59.]
39	MG 1.2: Move this sample problem, including the figures, on p. 39 “Which rectangle is NOT divided into four equal parts?” to NS 3.1 on p. 36.
43/44	NS 1.5: Move the sample problem (“Which number represents the shaded part of the figure?” and the figure) to page 44 under NS 1.7
44	(1) NS 1.5: Edit the problem at the top of the page: the parenthetical statement (“Note the equivalence..”) at the end of problem 4 (that is, $4/5 < 13/15$) needs to be moved to the end of problem 3 (that is, $12/18 = 2/3$). (2) NS 1.9: Move the problem (“True or False? 1. $-9 > -10$...”) to NS 1.8.
45	NS 4.2: Change the number 264 to 210 in the problem (“List all the distinct prime factors of 210.”).
46	AF 1.3: Change the format of the equations in the problems, so that certain brackets and parentheses are eliminated. Should look more like this: Solve $(3 \times 12) - \left(\frac{24}{6} + 8 \right) = ?$ Solve $\left(\frac{18 + 31}{7} + 5 \right) \times 9 = ?$
47	(1) MG 1.1 Move the problem to MG 1.3 on the same page. (2) MG 1.2: Change the first sentence of the problem to read “area is 120” (not 1) and change the second sentence to “exceeds 400.” (not 250). (3) MG 1.3: Change the problem to read “...perimeter is 40” (not 4) and “area is less than 10” (not 1/20).
48	MG 3.4: switch the order of the two problems, so that “Craig folded a...”) comes before “Let AB , CD ...reflection?”
52	NS 1.3: delete “1. List all the factors of 48...” and Remove the “2.” in front of “Extend the tables shown below:”
52/137	Change the second line “fractions, decimals, and positive...” to “fractions and decimals, and learn to add and subtract positive and negative numbers.” This change will also need to be made to the focus statement on page 137, which is identical.

Page Number	Corrections
53	<p>(1) NS 1.4: Insert the following problem: “Find the prime factorization of 48 and use exponents where appropriate.”</p> <p>(2) NS 2.1: Change the 1,2,3 under 2.1, “Determine the following numbers:”</p> <ol style="list-style-type: none"> 1. $11 + (-23)$ 2. $(-15) - 128$ 3. $(-27) + (-45)$ <p>(3) NS 2.4: This problem needs to be split between two standards. Move the problem “Given the following three pairs... , find for each pair its:</p> <ol style="list-style-type: none"> 1. Sum 2. Difference” to NS 2.3.00 <p>Then repeat “Given the following three pairs... , find for each pair its:” and place this under NS 2.5 followed by</p> <ol style="list-style-type: none"> 1. Product 2. Quotient in simplest terms <p>(4) NS 2.5: Insert the following problem: “Ericka has $3\frac{1}{2}$ yards of cloth to make shirts. Each shirt takes $\frac{7}{8}$ yard. How many shirts can she make? How much cloth will she have left over?”</p>
54/59	AF 1.1: Move the problem on p. 54, “Joe’s sister...”, to grade 6, AF 1.2, on p. 59.
58/57	<p>NS 2.2: Move the problem on page 58 “Find n if: ...” to under NS 1.3 on page 57 (“Find n if:”).</p> <p>Insert the following problems under 2.2 on page 58:</p> <ol style="list-style-type: none"> 1. If $11/7$ is divided by a certain fraction a/b, the result is $3/8$. What is a/b? 2. Draw a rectangle that has a perimeter of 1 and an area that is less than $1/30$. <p>[Comment: fractions should be drawn with horizontal lines rather than slashes as shown].</p>
75	Algebra I Standard 8.0, second line, change “those slopes” to “their slopes”.
105	Left column, line 1: change “readiness” to “accomplishments”
138	Delete “numbers for” in the left-hand column, third line from the bottom. It will then read: “concepts of numbers for arithmetic or ...”
140	Right column, lines 3-4, delete “and a cube and the ...of a circle.” And insert “and a rectangle and the volume of a rectangular solid.”
143	Subheading in the left column should read: “ Key Standards and Elaboration.” Need to add “and Elaboration”.
144	Left-hand column, end of the first paragraph after “and $a/b - c/d = (ad - bc)/bd$ ” insert: “However, a knowledge of the GCD or LCM is often helpful when adding or subtracting two fractions, such as $1/3 + 5/6$ or $3/16 - 1/24$.”
147	Left-hand column, lines 9-11, delete the sentence “Thus finding the GCD...impossible in practice.” and insert “There are other methods besides finding their prime factorization to determine the GCD and LCM.”
150	Left column, line 1: change “common denominator...” to “common multiple...”.

Page Number	Corrections
154	(1) Right column, lines 17-22: “So far this seems to be ...a mathematical theorem:” should not be indented. (2) Right column, lines 17-19, delete “So far this seems to be....No proof is involved.” And insert “This would seem to be an entirely mechanical procedure that involves no proof because both the hypothesis and conclusion are hidden.”
155	Left column, change lines 1-3 under the displayed proof (“In practice, it would be....is solved. Nevertheless, without” to “The purpose of giving this proof is by no means to suggest that, in school mathematics, linear equations should ever be solved in this tedious fashion. Rather, the intention is to show that even certain standard procedures that students tend to take for granted are nevertheless mathematical proofs in disguise. Furthermore, without”...
157/156	Move the subheading “Misconceptions in Mathematics Problems” to page 156, right column, above the last paragraph that begins: “It should be pointed out , however, ...”.
160	Left-hand column, line 9, change “two lines” to “two nonvertical lines”
172*	Add outside parentheses to right column, last line: “point C = (cos (b-a), sin (b-a)) to (1,0)”.
199	Right column, lines 17-18: change “communicative” to “commutative”
229	Left-hand column, line 7, change “adopted” to “adopts”
279*	Delete the date at the bottom of the page.
300	There are two problems labeled 1.5. Change the second 1.5 to read 2.5 and move it below 2.1, just above Measurement and Geometry heading. Change the ADDITION signs to DIVISION signs in both problems. Delete the individual parentheses and use large brackets as shown below for both problems: $\left(\begin{array}{r} \underline{9185} \\ 2117 \end{array} \right) \times \left(\begin{array}{r} \underline{12} \\ 13 \end{array} \right) = \begin{array}{r} \bullet \\ \hline \bullet \end{array} \frac{9185}{2117} = ?$
303	(1) Switch the order of the problems 2.1 and 2.2. Place 2.1 before 2.2. (2) Under Statistics 2.2, 2.5 spell out 50, so that the problem begins “Fifty red marbles...”
306	Change problem 3.2 from “y=(1/2)x-3” to “y=x-3.”

* Mary Sprague sent these edits to Curt Robinson, Publications Office on 9-28-99. The errors appear in the published version (11/99).

Glossary Additions and Corrections

Page 330

Add:

binomial coefficient. For n equal to any positive integer, and for k equal to any integer between 0 and n (or 0 or n itself), the binomial coefficient $B(n, k)$ is:
$$\frac{n!}{(n-k)! k!}$$

The most customary notations for $B(n, k)$ are ${}_nC_k$ or $\begin{bmatrix} n \\ k \end{bmatrix}$.

The symbol $n!$ (n factorial) represents the product of all integers between 1 and n inclusive (e.g., $5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$), except for $0!$ which is a special case and stands for 1 (i.e., $0! = 1$).

binomial theorem. The statement that, for positive integer n , $(a + b)^n$ is a polynomial having the binomial coefficient ${}_nC_k$ as the coefficient of the monomial term a^k .

Edits:

arithmetic sequence: line 4 should read “constant, i.e., for every i , $a_i - a_{i-1} = k$; for example,...”

complex numbers: line 4, change the word “denoted” to “defined”

Page 331

Add:

field: A “number system” which resembles the system of rational numbers in that members can be multiplied and added, and there is a zero and a unit (named “one”), and the rules governing the arithmetic combinations are the familiar ones. For example, for any a, b, c : $ab = ba$; $1*a=a$; $0 + a = a$; $a + b = b + a$; $a*(b + c) = a*b + b*c$; and the equations $a*x = b$ (unless $a = 0$) and $a + x = b$ always have unique solutions. The complex numbers, the real numbers, and the rational numbers, all form fields. There are other fields (e.g., all real numbers of the form $a + b * \sqrt{3}$).

Edits:

Change the order of “linear expression” and “linear equation”.

exponent: delete the parenthetical statement.

heuristic statement: add “or complete” at the end to say “logically correct or complete.”

Change the order of “heuristic argument” and “histogram”.

irrational number: insert real - “A real number that cannot...”

lemma: insert at the end after “theorem” the following “, usually isolated as an interim statement in the course of a longer chain of reasoning.

linear equation: Delete and insert “An equation stating that a linear expression equals zero.”

Page 332

Add:

probability space. A set of entities called events, to each of which is assigned a number called its probability. For example, when one throws a pair of dice five times, then an event might be *obtaining the result 12 every time*. The associated probability for this example event is $(1/36)^5$.

Page 332

Edits:

logarithm: Delete current definition and insert “A logarithm is an inverse of an exponential. The equation $y=a^x$ can be written as $x = \log_a y$, meaning x is the logarithm of y to the base a . Any positive number except 1 can be used as the base for a logarithm function (logarithms to base 10 are called *common logarithms* and logarithms to base e are called *natural logarithms*).

parallel: Delete the first sentence and replace it with: “In Euclidean geometry, two distinct lines are said to be parallel if they have no points of intersection.” Leave the second sentence as is.

polar coordinates: Delete the “ θ ” after $r\theta$ and the “and” before “the angle, and insert parentheses so it reads “The coordinate system for the plane is based on r (the distance from the origin) and θ (the angle...to the point).”

polar equation. Line 3, “ $2\cos q$ ” should read “ $2\cos\theta$ ”.

quadratic function. Delete current definition and insert the following: “A function f is called a quadratic function if it can be written in the form $f(x) = ax^2 + bx + c$, where a , b , and c are real numbers and $a \neq 0$. Note that a quadratic function is a polynomial of degree 2.”

random variable. Change the definition to read “A function assigning a number to each event in a probability space.”

ratio. Change the definition to read “A comparison of two numbers, often expressed by a fraction. For example, if there are three boys in class for every two girls, ‘the ratio of boys to girls is 3:2 or $3/2$ ’ (read as 3 to 2).”

real numbers. Replace the current definition with: “The set of all decimal expressions, finite or infinite in length.”

Page 333

Edits:

system of linear equations: Keep the first sentence as is. Change the second sentence to read “A solution is a set of numbers which, when it replaces variables, render the equations true. For the present example, “ $x=4$, $y=3$ ” is a solution.

theorem: Add the following to the end of the current definition – “mathematics[^], which is ultimately of the form ‘ p implies q ,’ where p represents a set of hypotheses and q a conclusion[^].”

translation: Change to read “A rigid motion of the special form $x \longrightarrow x + v$ for all x in the plane, or in space, where v is a fixed vector defining the motion.”

Page 334

Edits:

transversal: change “intersects each of the given lines” to “intersecting each of the given lines....”

unit fraction: Change the definition to read “A fraction of the form $1/n$, where n is a positive integer.

vector. In physics, a measurable quantity such as force, which has both a magnitude and a direction, and sometimes also a point of application. In mathematics, a vector is a member of an algebraic system that has addition among its members and multiplication by real numbers (called scalars), with the entire system obeying certain algebraic rules resembling the manner in which the vectors of physics may be combined.